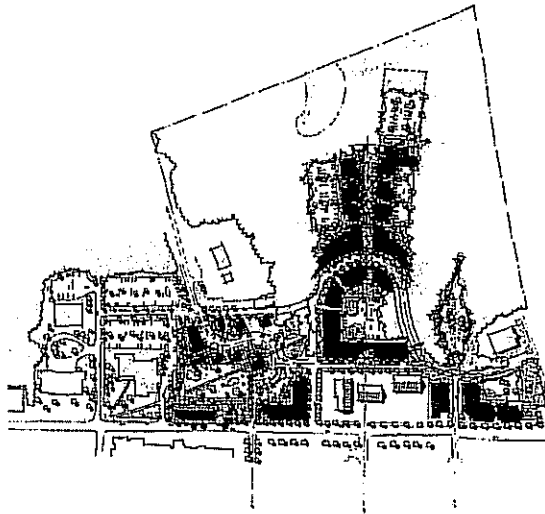


DRAFT
ENVIRONMENTAL IMPACT EVALUATION
FOR THE PROPOSED
GRADUATE STUDENT APARTMENTS
AND
DOWNTOWN MANSFIELD MASTER PLAN PROJECTS
STORRS, CONNECTICUT



PREPARED FOR:



THE UNIVERSITY OF CONNECTICUT

PREPARED BY:



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EXECUTIVE SUMMARY

Introduction

This Environmental Impact Evaluation (EIE) addresses the potential impacts associated with the proposed projects identified in the Downtown Mansfield Master Plan (DMMP). The DMMP was developed by the Mansfield Downtown Partnership, an independent, non-profit organization. The DMMP is a concept master plan for revitalizing the existing Mansfield downtown district that calls for construction of new facilities and replacement/renovation of existing facilities. A major component of the DMMP is construction of a 400-bed graduate apartment complex. While the ultimate division of public and private development of the site is not known, the majority of the DMMP study area is currently owned by UConn and the University may choose to take or participate with others in actions to develop portions of the site. Several of the proposed projects of the DMMP are subject to review under the Connecticut Environmental Policy Act (CEPA) promulgated under Section 22a-1 to 22a-1h of the Connecticut General Statutes (CGS).

Project Description

The original project consisted of construction of a graduate apartment complex with a capacity of 500 to 1000 beds. The project evolved as a result of agency and public comments made in response to the Notice of Scoping (NOS), discussions with UConn staff and administration, analysis of the University's need for graduate housing, and coordination with relevant concurrent projects. The project scope evolved to include all projects associated with the DMMP and the number of beds was decreased based on a housing market analysis. The proposed DMMP includes 219,000 ft² of residential space (not including the graduate apartments), 78,000 ft² of retail space (includes 10,000 ft² of restaurant food space), 33,000 ft² service/educational space, 31,000 ft² of office space and 10,000 ft² of restaurant/food space. As outlined in the DMMP, the proposed project consists of the following clusters of development:

- The Village Green. This proposed area consists of as many as ten buildings including two existing structures that could be expanded or replaced. Two of the new buildings, each three stories, would be located on Storrs Road while the others would be located on a new road connecting Dog Lane at the existing Bolton Road intersection.
- University Housing. A 400-bed graduate housing complex is proposed for the area east of the downtown. The plan calls for the buildings to be clustered around a central pedestrian area with access and parking to the perimeter of the cluster.
- Mixed Use Block. A mixed use block consisting of up to five buildings is proposed for the area between the privately owned commercial buildings and the University housing complex. The plan calls for buildings up to three stories in height with retail on the ground floor and office and residential uses on the upper floors.
- Residential Block. The proposed residential block is located at the south end of the downtown area along Storrs Road. Due to the site characteristics, two of the buildings would be life style housing with two stories on the street side and three stories on the east side with

a small parking deck behind the buildings. A third building is proposed for service-related uses with either office or residential above the ground floor.

Purpose and Need

The proposed project was developed in response to the University's need to construct additional graduate student housing on the campus and the University's and Town of Mansfield's desire to stimulate the revitalization of the existing downtown area. A market study (Anderson Strickler, 2002) of graduate housing at UConn demonstrated that there is a demand for 633 beds of on-campus graduate housing. The estimated demand is derived from graduate students currently living off campus that would be attracted to a new graduate apartment complex, and graduate students that are currently located on campus but may be relocated due to conversion of existing graduate residences to alternative uses. The market study indicated that only 14% of graduate students currently living in UConn housing are "very satisfied" with UConn's housing facilities. The need for new graduate housing is based on the estimated demand and the limited satisfaction of current on-campus residents.

As described in DMMP, the idea of having a town center for Mansfield was conceived over 30 years ago. The Downtown Partnership identified the needs and desires of the University, Town officials, community residents, private property owners within the downtown area and downtown merchants, and formed the basis for the proposed DMMP. The DMMP development process outlines a strategy for revitalizing Downtown Mansfield by "...creating a vibrant, exciting, mixed-use downtown center through leveraging the housing investment planned by the University." There is an opportunity for the year-round graduate student population to be in close proximity to the retail components of the DMMP. The presence of 400 students in the downtown would represent the most significant fraction of residents in the DMMP area.

Alternatives Considered

In general, the alternatives analysis included the No Build Alternative, Expansion of Existing Facilities, and several Build Alternatives. The non-student housing components of the DMMP are site specific and were only considered as part of the Build Alternative for the Storrs Center Site.

No Build Alternative

Under the No Build Alternative, the University would need to rely on existing facilities for graduate housing, replacement housing for the Graduate Residences would not be available and any benefits of converting the current Graduate Residences to academic facilities or undergraduate housing would not be realized. Furthermore, the implementation of the No Build Alternative would not allow the University to offer on-campus housing that caters to the needs of graduate students. This oversight may play a negative role in selection of UConn over other higher educational institutions by prospective graduate students.

Expansion of Existing Facilities

The University has considered expansion and renovation of the existing graduate housing facilities as an alternative means to meeting the estimated demand for graduate housing. Potential expansion sites included the Graduate Residences, the Hilltop Apartments, the Mansfield Apartments, and the Northwood Apartments. In general, the existing graduate housing facilities have limited potential for expansion/renovation to meet the estimated graduate student housing demand. This is due to renovation costs, expansion feasibility, and the inability to meet the expressed needs of graduate students for the type of housing desired.

Build Alternatives

The Build Alternative for the project consists of construction of a new graduate housing facility with a capacity of 400-beds. Several sites were investigated as potential locations for the build alternative, including:

- Storrs Center Site
- Northwood Site
- Moss Sanctuary
- Depot Campus
- North Campus

There are advantages and disadvantages to construction of graduate apartments on all of the build alternative sites. After careful consideration of these advantages and disadvantages, three sites were determined not to be viable for this project. The following characteristics of the Moss Sanctuary, the Depot Campus, and the North Campus contributed significantly to eliminating these sites as potential build locations:

- Moss Sanctuary: An important disadvantage of development of the Moss Sanctuary is related to the potential impacts to ecological and wetland resources on the site. Furthermore, the Moss Sanctuary Site is designated as Preserved Open Space in the *Town of Mansfield 1993 Plan of Development* and the *State of Connecticut Conservation and Development Policies Plan (1998-2003) (C&D Plan) (OPM, 1998)*. In 1990, the parcel was designated as a sanctuary by the UConn Board of Trustees and was named for Professor Albert E. Moss, Emeritus, Forestry. In response to the scoping meeting comments, UConn further evaluated the Moss Sanctuary site and determined it would not be a suitable site for the proposed graduate apartments.
- Depot Campus: The major disadvantages of the site for graduate housing are the distance to campus, the condition of existing buildings and infrastructure, and potential impacts to historic and archaeological resources. Additional significant disadvantages include conflicts with long range planning and potential socioeconomic issues related to construction of graduate apartments near the existing Bergin Correctional Institution. UConn is not interested in constructing graduate housing in close proximity to the correctional institution.

- North Campus: The major disadvantage to construction of the graduate apartments in the North Campus Site is inconsistency with UConn's long range planning strategies for the parcel. The University is committed to the proposed primary land uses for the North Campus, a housing project is now in development, and additional housing would be inconsistent with the planned uses for the remaining parcels.

With elimination of the Moss Sanctuary, the Depot Campus, and the North Campus as potential build alternatives, the evaluation of existing conditions and analysis of impacts was conducted for the Storrs Center Site and the Northwood Site. Through detailed analysis of the proposed project on the Storrs Center Site and the Northwood Site, the Storrs Center Site was identified as the preferred alternative. The major disadvantages to constructing the graduate apartments on the Northwood Site include the potential use of automobiles to get to campus, pedestrian and bicycle safety issues associated with North Eagleville Road, lack of telecommunications services in the vicinity of the site, and the lack of convenient access to campus facilities.

Analysis of Impacts

Analysis of the impacts for the Storrs Center site are summarized as follows:

Air Quality

Construction and operation of the proposed graduate apartments and DMMP facilities will generate air emissions from traffic accessing the site, heat and hot water generation, and construction activities (dust and emissions from construction equipment). Microscale modeling of CO emissions from vehicular sources indicated that that projected CO concentrations at all selected receptor locations are well below the National Ambient Air Quality Standards (NAAQS) at every studied location. On a mesoscale basis, air quality is evaluated based on vehicle miles traveled (VMT). The proposed graduate apartments on the Storrs Center Site will be within walking distance from campus and will also be serviced by the UConn shuttle. Consequently, graduate students that formerly lived off campus may no longer commute to campus, thereby generating a reduction in VMT. In addition, a successful revitalized downtown has the potential to decrease VMT in the area by providing needed and desired services within Mansfield.

With respect to stationary sources, it is expected that natural gas fired boilers will be used to generate heat and hot water for the graduate apartments and DMMP facilities. The boilers will conform to Best Available Control Technology Standards for stationary sources of pollutants and are not expected to generate significant increases in stationary sources of pollution relative to existing sources on the UConn campus.

Air quality impacts from construction activities include fugitive dust, emissions from construction equipment, and construction generated traffic. However, all construction related impacts will be temporary (duration of the construction phase) and transient (only during hours of construction work). Standard construction management practices will be implemented to mitigate these temporary impacts.

Noise

Potential noise impacts include noise generated during construction of the proposed project, noise associated with activities at the project facilities, and noise resulting from traffic increases brought about by the project. The graduate apartments and the DMMP facilities are expected to generate an increase in human activity in the area. The graduate apartments and mixed use facilities will be located in areas that were previously undeveloped and therefore were characterized by limited human activity. Anticipated increased noise levels should be similar to those measured at similar locations on the UConn campus which are well within Connecticut Department of Environmental Protection (DEP)'s standards.

Increased activity is also anticipated as a result of revitalization of the Storrs business district. Commercial, business and service/educational facilities are proposed for areas adjacent to Route 195 and Dog Lane. Because these uses currently exist on this portion of the site, no significant noise level increases are anticipated.

Noise from human activities can be mitigated by providing a buffer area between the developed site and the sensitive receptors. The DMMP layout is sensitive to existing natural constraints (i.e. wetland resources) that simultaneously limit development in these areas and provide significant buffer areas (>300 feet) between the proposed development and surrounding sensitive receptors.

Construction related noise impacts are unavoidable. The operation of construction equipment will result in short-term increases in noise levels in and around the construction site. To mitigate these impacts construction activities will be limited to weekday hours (7 AM to 5 PM), quiet methods and machinery will be used, equipment will be maintained, and nearby receptors will be notified of excessive noise levels in advance.

Traffic, Parking and Circulation

Traffic modeling was conducted to evaluate the traffic impacts of the proposed graduate apartment complex and DMMP facilities. Future analysis was performed assuming planned developments and roadway improvements identified as part of UCONN 2000 and North Campus Master Plan (as described in the *Outlying Parcels Master Plan*).

During the AM peak hour, the impact of project-generated traffic would generally be limited to the project access roadways and driveways. The proposed DMMP and graduate apartment complex is expected to have little impact on intersections outside of the immediate DMMP area during the morning peak period. For the PM peak hour, the proposed project would generate more vehicle trips than in the morning, and therefore would have a greater impact on area intersections. However, there are several planned improvements associated with UCONN 2000 and North Campus developments. Combined with recommended mitigation measures for the DMMP projects, all study intersections are expected to operate at an acceptable (D or better) level of service (LOS). Mitigation measures for the proposed DMMP include:

- Re-alignment of Dog Lane and Bolton Road.
- Upgrading the signal timing and phasing and providing exclusive turning lanes at the intersection of Route 195 and Mansfield Road.
- Monitoring traffic volumes and signalizing the intersection of South Eagleville Road and Separatist Road when warrants are met.
- Modifying the cycle length and signal timings at the intersection of North Eagleville Road and Hillside Road.

Within the immediate vicinity of the site, proposed mitigation measures include prohibiting left-turn movements in and out of the unsignalized entrances to the site as well as traffic calming measures to discourage project traffic from using neighborhood streets. Residents, Town, and the University should participate in development of a traffic calming measures for this area.

During the construction phase of the proposed projects, traffic congestion in the immediate vicinity of the Storrs Center Site may increase. Impacts will be mitigated through development and implementation of a traffic management plan for the construction phase.

Construction of the DMMP and graduate apartments is likely to generate increases in pedestrian traffic. It is recommended that the design team work with the Town and DOT to develop alternative devices to provide safe and efficient pedestrian crossings at Route 195. This may include measures such as pavement surface treatments, signage, bollards, lighted crosswalks, and refuge areas.

Utilities

Potable Water Supply

The proposed graduate apartments and DMMP facilities will generate additional demand on the water supply system. A 400-bed complex is expected to generate a demand of 18,000 gallons per day (0.018 MGD), approximately 1.4% of the 2001 ADD. The net increase in potable water demand from DMMP facilities was estimated at approximately 0.032 MGD. The total increase in ADD for both the proposed student apartments and the DMMP projects is estimated to be 0.05 MGD, approximately 3.9% of the annual ADD. The increased potable water demand is approximately 1.6% of the DEP permitted maximum withdrawal rate.

Minimizing impacts to the water supply system will be achieved by continued implementation of water conservation measures aimed at efficient water used and waste elimination. State-of-the-art plumbing fixtures, kitchen dishwashers and clothes washers will be utilized. The proposed projects will comply with all applicable State and Federal water use codes.

The proposed project will require extension of the existing water distribution system to provide service to the graduate apartments and the DMMP facilities. Engineering plans and specifications for extension of the distribution system will be subject to review and approval by the Department of Public Health (DPH) Water Supplies Section Engineering Unit prior to installation.

Sanitary Sewer

Development of the Storrs Center Site will generate additional wastewater flows from the graduate apartments and the DMMP facilities. The estimated total (apartment complex and DMMP projects) wastewater flow from the Storrs Center Site (estimated as 95% of the potable water usage) is 0.047 MGD, which is approximately 2.9 % of the remaining capacity of the UConn Water Pollution Control Facility (WPCF). The UConn WPCF is expected to be able to accommodate the increase in flow. Impacts will be minimized with the use of efficient kitchen, bathroom, and laundry equipment. The design team will determine the most appropriate way to extend the wastewater collection system to service the proposed apartments. Extension of the system will be subject to review and approval by the DEP Bureau of Water Management.

Stormwater

The proposed DMMP facilities and graduate apartments will result in a net increase in impervious area of $\pm 379,000 \text{ ft}^2$. Mitigation for the projected changes in stormwater runoff quantity and quality will be achieved through stormwater management. The stormwater management system on the Storrs Center site will need to be carefully designed and implemented due to the topographic limitations of the area, the relatively small size of the parcel, and the potential to impact natural resources.

Stormwater runoff modeling indicated that it is feasible to detain the peak flows and volumes of stormwater generated by the 100 year storm in two detention basins with volumes of 1.9 and 0.9 acre-feet. However, it is recommended that the stormwater management system incorporates DEP recommended BMPs in addition to detention that has a water quality goal of better than 80% TSS removal, and is designed to protect and possibly improve conditions of natural resources on the site. It is recommended that final design of the stormwater management system include the following:

- Reconstruction of the existing stormwater collection system to include new catch basins with deep sumps and hooded outlets to provide removal of suspended solids and oil and grease prior to discharge.
- Restoration of an existing wetland area and stream channel.
- Maintenance of hydrologic conditions of the existing vernal pool.
- Design of a collection system and siting of detention basins that takes advantage of site topography.
- The use of BMPs aimed at treating and dissipating runoff such as vegetated swales and grass buffer strips.
- The use of catch basins with deep sump pumps to trap sediments and hoods to trap oil and grease in all new collection systems installed in conjunction with roadway and parking lot paving.
- The use of gross particulate separators in systems draining more than one acre of roadway or parking area to a common discharge point.

Construction activities associated with the proposed project have potential to impact runoff quality. Proposed construction activities include demolition of existing facilities, excavation and grading of the site for the apartment complex, and excavation associated with any necessary relocation of utilities. It is possible that construction of the proposed graduate apartments will require blasting and a substantial amount of excavation. The transport of fine-grained material due to construction activities is the primary water quality concern. The relatively close proximity of wetland resources on the site, including the vernal pool, requires that construction phase stormwater management is well designed and implemented. An Erosion and Sediment control plan will be prepared in accordance with the *Connecticut Guidelines for Soil Erosion and Sediment Control* (2002).

Land Use and Zoning

The DMMP, developed by the Downtown Partnership, reflects the objectives of UConn, the Town of Mansfield, and the local business community. While consistent with most of the existing zoning, there are conflicts with respect to residential uses and parking standards. The Downtown Partnership recommends that a new zoning district be allowed for development to occur. The new zoning district should allow for mixed use development, buildings having as many as three stories without traditional setbacks, common parking (both on-street and off-street) as distinct from parking for individual establishments, lower parking ratios in recognition of the pedestrian orientation of the downtown, and finally, the higher density of development associated with a more urban setting.

The Mansfield Town Council designated the Mansfield Downtown Partnership to serve as a municipal development corporation pursuant to Chapter 132 of the CGS for the Storrs Center project. The development corporation will act as the municipal development agency and is charged with the preparation of the Municipal Development Plan (MDP).

Wetlands

The proposed graduate housing complex and DMMP facilities will not generate significant direct impacts on wetland resources on the Storrs Center Site. The proposed layout for the graduate apartments allows for a 50 to 100 foot undisturbed buffer between the developed area and the wetland resource areas. The only exception is that a portion of the proposed roadway through the site will be aligned along the existing footpath, under which a wetland/watercourse is culverted. Construction of this roadway may generate minor (1,000 ft²) direct impact on the watercourse. Potential mitigation efforts could improve the problem of erosion and sedimentation within this wetland resource area. Such measures could include slope stabilization, debris removal, and velocity dissipaters for existing stormwater discharge to wetland resource areas.

A vernal pool (Wetland D) is located in the northern section of the project site. The footprint of the project does not directly impact this resource, however, a portion of the project area is within the surface watershed of the vernal pool. In order to protect this resource, a 100-foot setback

will be maintained between the project area and Wetland D. In addition, surface and groundwater hydrology that supports this wetland will be maintained.

Construction of the proposed graduate apartments and DMMP facilities will result in an increase in impervious area on the site. Associated with increased impervious area are increases in stormwater runoff volume, peak flows, and potential for increased pollutant transport. Consequently, the proposed project has the potential to adversely impact the hydrology and water quality of downstream resources (wetlands and intermittent tributaries) if not mitigated by careful design. To the extent feasible, the stormwater management system will incorporate infiltration practices for treating and dissipating runoff (ex. vegetated swales in bufferstrips), detention to control peak flows, gross particle separators (for stormwater collection systems draining more than 1 acre of impervious area), and catch basins with deep sumps with hooded outlets to trap particulates and oils/grease.

Energy

The proposed housing units and the DMMP facilities will utilize energy as a direct result of operation and construction. Operation of the proposed housing units and the DMMP facilities will require energy primarily in the forms of electricity, provided by Connecticut Light and Power (CL&P) and gas, provided by Connecticut Natural Gas (CNG). Power is currently available in the immediate project vicinity.

Construction of the proposed apartment complex and DMMP facilities would approximately double the business/retail space on the parcel and add approximately 392,000 square feet of residential space (mixed use housing, lifestyle housing, and graduate apartments). The energy usage on the site is expected to increase by approximately 48 million Btu per year.

Energy will be used directly in the construction process and indirectly in the manufacture and delivery of building materials. Construction-related energy usage will produce a one-time energy demand. This minimal demand increase will be temporary and is not expected to significantly impact energy resources.

Minimizing the impacts on energy resources will be achieved through conservation. Energy conservation will be emphasized in the design and construction of the commercial and residential facilities. Facilities owned by the University will comply with the energy performance standards for State-owned buildings and all State building and energy code requirements.

Solid Waste

Development of the Storrs Center Site will generate impacts on the solid waste stream due to construction and operation of the graduate apartment and DMMP projects. It is estimated that a 400-bed graduate student complex will generate 80 tons/yr. (pers. comm. Curran, 2001). However, graduate students currently living both on-campus and off-campus generate solid waste, therefore, the increase does not represent "new" solid waste in the area. The estimated additional solid waste is 2.3% of the existing campus annual waste stream. It is expected that a

private carting firm will be able to accommodate the additional solid waste and recyclable materials generated by the proposed apartments. Students in the apartments will be expected to participate in the on-going recycling program, thereby minimizing the impact on the solid waste stream. The annual solid waste generation for the DMMP projects was determined to be approximately 450 tons/yr. The existing facilities within the DMMP project area account for approximately 120 tons/yr. of the future estimate.

The DMMP projects will need to comply with State and Town solid waste and recycling regulations. The privately owned DMMP facilities will have several alternatives for solid waste and recyclable collection including collection by private licensed transporters, service through the Town, or service in conjunction with existing service for UConn. Waste generation will be minimized through participation in recycling efforts. That the available providers of solid waste and recyclable collection and disposal will accommodate the DMMP projects.

During the construction phase of the proposed graduate apartments and the DMMP projects solid waste will be generated. The existing site for the graduate apartments is currently undeveloped and therefore demolition activities will not be required prior to construction. Implementation of the DMMP will require both demolition and construction. Solid waste generated by demolition and construction activities will be recycled by the contractor or hauled off-site to a DEP approved disposal area.

Conclusion

Construction of the proposed graduate housing complex and DMMP facilities is expected to generate impacts on physical, natural and socioeconomic resources. However, the majority of these impacts are expected to be minor. The project is expected to generate the most significant impacts on traffic and stormwater. Implementation of proposed mitigation measures will limit the irrevocable and adverse effects of these impacts. The overall goals of the proposed project include improving and enhancing the residential conditions at UConn as well as revitalizing a decaying downtown Mansfield area. Residual impacts from this project will be offset by the benefits gained. There will be several economic benefits gained by the rehabilitated downtown Mansfield area as well as the increase in revenue from new on-campus graduate housing for UConn. There will be other forms of benefits, which include an increase in jobs during both the construction and post construction periods, as well as aesthetic and functional improvements to the existing downtown district.

